

Claims

1. A hinge structure for a flat visual display device comprising:
a pivotal plate connected to the flat visual display device, for rotation of the
5 flat visual display device;
a fixing plate connected to a supporting portion for supporting the flat visual
display device;
a rotational shaft inserted to vertical planes of the pivotal plate and the fixing
plate, for rotation of the pivotal plate in one degree of freedom;
10 a frictional member mounted around an outer periphery of the rotational shaft,
for enclosing the rotational shaft, and whose both ends have a frictional member
tightening plane of a planar shape on which an inserting hole is formed;
a tightening member inserted to the inserting hole, for tightening the
frictional member tightening plane, thereby tightening the rotational shaft by means
15 of the frictional member, and generating strong breaking force accordingly; and
a plate shaped spacer inserted between the frictional member tightening
planes, for supporting force exerted on the frictional member.
2. The hinge structure for a flat visual display device as set forth in claim 1,
20 wherein at least one frictional member is formed on a center of the rotational shaft.
3. (canceled)
4. The hinge structure for a flat visual display device as set forth in claim 1,
25 wherein a washer is inserted between contact planes of the fixing plate and the pivotal
plate for swift pivoting operation of the fixing plate and the pivoting plate.
5. The hinge structure for a flat visual display device as set forth in claim 1,
wherein a frictional housing is formed around an outer periphery of the frictional
30 member, for preventing destruction of the frictional member in spite of strong force
exerted by the tightening member.
6. The hinge structure for a flat visual display device as set forth in claim 1,
wherein a fixing portion of non circular shape is formed on an outer periphery of both

ends of the rotational shaft; and a shaft fixing portion of the pivotal plate is formed in the same shape as the fixing portion, for receiving the fixing portion, whereby the pivotal plate and the rotational shaft are rotated together simultaneously.

5 7. The hinge structure for a flat visual display device as set forth in claim 1, further comprising:

 a guiding protuberance extended to an outside of a vertical plane of the fixing plate;

 a pivotal guiding portion formed on an vertical plane of the pivotal plate in
10 an arc shape, for receiving the guiding protuberance and restricting a pivoting angle of the pivotal plate accordingly.

 8. The hinge structure for a flat visual display device as set forth in claim 1, wherein a washer of plastic material is inserted on a contact plane between the fixing
15 plate and the pivotal plate, for abrasion prevention and swift operation.

 9. The hinge structure for a flat visual display device as set forth in claim 1, wherein the frictional member is made of engineering plastic.

20 10. A hinge structure for a flat visual display device comprising:
 a pivotal plate connected to the flat visual display device, for rotation of the flat visual display device;

 a fixing plate connected to a supporting portion for supporting the flat visual display device;

25 a rotational shaft inserted to vertical planes of the pivotal plate and the fixing plate, for rotation of the pivotal plate in one degree of freedom;

 a frictional member mounted around an outer periphery of the rotational shaft, for enclosing the rotational shaft, and whose both ends have a frictional member tightening plane of a planar shape on which an inserting hole is formed;

30 a tightening member inserted to the inserting hole, for tightening the frictional member tightening plane, thereby tightening the rotational shaft by means of the frictional member, and generating strong breaking force accordingly;

 an elastic member whose both ends are hooked at the fixing plate and the pivoting plate, respectively, and mounted around the rotational shaft, for generating

elastic force in circumferential direction upon rotation of the rotational shaft;

a guiding protuberance extended to an outside of an vertical plane of the fixing plate; and

a pivotal guiding portion formed on an vertical plane of the pivotal plate in an arc shape, for receiving the guiding protuberance and restricting a pivoting angle of the pivotal plate accordingly.

11. The hinge structure for a flat visual display device as set forth in claim 10, wherein the elastic member consists of torsion spring in which a predetermined iron wire is stacked in a coil shape.

12. The hinge structure for a flat visual display device as set forth in claim 10, wherein the one end of the elastic member is hooked on a horizontal plane of the fixing plate and the other end of the elastic member is hooked at a elastic member hooking protuberance extended to an inside from an horizontal plane of the pivotal plate.

13. The hinge structure for a flat visual display device as set forth in claim 10, further comprising:

a cylindrical spacer mounted around a contact plane between the elastic member and the rotational shaft, for preventing direct contact of the elastic member with the rotational shaft and reducing noise and abrasion accordingly.

14. The hinge structure for a flat visual display device as set forth in claim 10, wherein the frictional member is made of engineering plastic.

15. A hinge structure for a flat visual display device comprising:

a pivotal plate connected to the flat visual display device, for rotation of the flat visual display device;

a fixing plate connected to a supporting portion for supporting the flat visual display device;

a rotational shaft inserted to vertical planes of the pivotal plate and the fixing plate, for rotation of the pivotal plate in one degree of freedom;

a frictional member mounted around an outer periphery of the rotational shaft,

for enclosing the rotational shaft, and whose both ends have a frictional member tightening plane of a planar shape on which an inserting hole is formed;

a tightening member inserted to the inserting hole, for tightening the frictional member tightening plane, thereby tightening the rotational shaft by means of the frictional member, and generating strong breaking force accordingly; and

an elastic member whose both ends are hooked at the fixing plate and the pivoting plate, respectively, and mounted around the rotational shaft, for generating elastic force in circumferential direction upon rotation of the rotational shaft.

16. The hinge structure for a flat visual display device as set forth in claim 15, wherein the elastic member consists of torsion spring in which a predetermined iron wire is stacked in a coil shape.

17. The hinge structure for a flat visual display device as set forth in claim 15, wherein the one end of the elastic member is hooked on a horizontal plane of the fixing plate and the other end of the elastic member is hooked at a elastic member hooking protuberance extended to an inside from an horizontal plane of the pivotal plate.

18. The hinge structure for a flat visual display device as set forth in claim 15, further comprising:

a cylindrical spacer mounted around a contact plane between the elastic member and the rotational shaft, for preventing direct contact of the elastic member with the rotational shaft and reducing noise and abrasion accordingly.

19. The hinge structure for a flat visual display device as set forth in claim 15, wherein the frictional member is made of engineering plastic.

20. The hinge structure for a flat visual display device as set forth in claim 15, a plate shaped spacer is inserted between the frictional member tightening planes, for supporting force exerted on the frictional member.